

1 / 11

10 30
atgacgactgaaccggttatttttcaagcctgttttcaaagaaagaatt
M T T E P L F F K P V F K E R I

50 70 90
tggggcggggaccgcttttagctgattttggctataaccattccgtcacaa
W G G T A L A D F G Y T I P S Q

110 130
cgaacaggggagtgctgggcttttgccgcgcatcaaaatggtcaaagc
R T G E C W A F A A H Q N G Q S

150 170 190
gttgttcaaaacggaatgtataaggggttcacgctcagcgaattatgg
V V Q N G M Y K G F T L S E L W

210 230
gaacatcacagacattttattcggacagcttgaaggggaccggtttccct
E H H R H L F G Q L E G D R F P

250 270 2
ctgcttacaaaaatattagatgctgaccaggacttatctgttcagggtg
L L T K I L D A D Q D L S V Q V

90 310 330
catccgaatgatgaatatgccaacatacatgaaaacgggtgagcttgga
H P N D E Y A N I H E N G E L G

350 370
aaaacagaatgctggtacattattgattgccaaaaagatgccgagatt
K T E C W Y I I D C Q K D A E I

390 410 430
atztatggccacaatgcaacaacaaaggaagaactaactaccatgata
I Y G H N A T T K E E L T T M I

450 470
gagcgtggagaatgggatgagctcttgccgctgttaaaggtaaagccg
E R G E W D E L L R R V K V K P

490 510 5
ggggattttttctatgtgccaaagcgggtactgttcattgcatgga
G D F F Y V P S G T V H A I G K

30 550 570
ggaattcttgctttggagacgcagcagaactcagacacaacctacaga
G I L A L E T Q Q N S D T T Y R

FIG. 1A

SUBSTITUTE SHEET (RULE 26)

2 / 11

590 610
ttatatgattatgaccgaaaagatgcagaaggcaagctgcgcgagctt
L Y D Y D R K D A E G K L R E L

630 650 670
catctgaaaaagagcattgaagtgatagagggtcccgtctattccagaa
H L K K S I E V I E V P S I P E

690 710
cggcatacagttcaccatgaacaaattgaggatttgcttacaacgaca
R H T V H H E Q I E D L L T T T

730 750 7
ttgattgaatgcgcttacttttcgggtggggaaatggaacttatcagga
I I E C A Y F S V G K W N L S G

70 790 810
tcagcaagcttaaagcagcaaaaaccatttccttcttatcagtgtgatt
S A S L K Q Q K P F L L I S V I

830 850
gaaggggagggccgtatgatctcttggtgagtatgtctatcctttcaaa
E G E G R M I S G E Y V Y P F K

870 890 910
aaaggagatcatatgttgctgccttacgggtcttggagaattttaaactc
K G D H M L L P Y G L G E F K L

930
gaaggatatgcagaatgtatcgtctcccatctg
E G Y A E C I V S H L

FIG. 1B

SUBSTITUTE SHEET (RULE 26)

59	yyde.pep	MTTEPLFFKPVFKERIWGGTALAD-FGYTIPSQRTGECWAF	↓	AAHQNGQSVVQNGMYKG
FT		: : : : : : :		
		MTQSPIFLTPVFKEKIWGGTALRDRFGYSIPSESTGECWAI	↑	SAHPKGPSTVANGPYKG
PMI		10 20 30 40 50		
KT				
60				
19	yyde.pep	LSELWEHRRHLEGGDRFPLLTKILDADQDLSVQVHPNDEYANI		HENGELGKTECW
YI		: : : : : : :		
		LIELWEEHREVFEGGEGDRFPLLTKLLDVKEDTSIKVHPDDYYAGENE		EELGKTECW
PMI		70 80 90 100 110 1		
YI				
20				
79	yyde.pep	IDCQKDAEIIYGHNATTKEELTTMIERGEWDELRLRVKVKPGDFFYVP	↓	SGTVHAIGKG
IL		120 130 140 150 160 170	↓	
		: : : : : : : :		
PMI		IDCKENAEIIYGHRTARSKTELVTMINSGDWEGLLRRIKIKPGDFYVPSGTL	↑	HALCKG
AL		130 140 150 160 170 1	↑	
80				

FIG. 3A

```

180      ↓↓
      ↓↓
339  ALETQNSD TTYRLYDYDRKDAEGKRLRELHLKKSIEVIEVPSIPERHTVHHQIEDLL
yjde.ppep
TT      :|||||:||||| :::|: |||: |::: || : |:::
PMI      VLETQNSDATYRVYDYDRLDNSGSPRELHFAKAVNAATVPHVDGYIDESTESRKGIT
IK      ↑↑
      190      200      210      220      230      2
40
240      TLIECA YFSVGKWNLSGASLKKQKPFLLISVIEGEGRMISGEYVYPFKKGDHMLLPY
yjde.ppep
GL      |::: |||| |:::| | : |:: ||: |||| | : : |::|::|:|
:      TFVQGEYFSVYKWDINGEAEMAQDESFLICSVIEGSGLLKYEDKTCPLKKGDHFILPA
PMI
QM      250      260      270      280      290      3
00
300      310
      GEFKLEGYAE CIVSHL
yjde.ppep      :| ::| |||:
PMI      PDFTIKGTCTLIVSHI
      310

```

FIG. 3B

FIG. 4A

[illegible]

FIG. 4B

8 / 11

10 30
atgacgcattccattatTTTTtagagcctgtctTTTaaagaaagactatgg
M T H P L F L E P V F K E R L W

50 70 90
ggagggacgaagcttcgtgacgctTTTtggtacgcaataccctcacaa
G G T K L R D A F G Y A I P S Q

110 130
aaaacaggtgagtgcgtggggcgtttctgcacatgcccatggctcgtcg
K T G E C W A V S A H A H G S S

150 170 190
tctgtaaaaaatggcccgctggcaggaaagacacttgatcaagtatgg
S V K N G P L A G K T L D Q V W

210 230
aaagatcatccagagatattcgggtttccggatggtaagggtgtttccg
K D H P E I F G F P D G K V F P

250 270 2
ctgctggtaaagctgctggacgccaatatggatctctccgtgcaagtc
L L V K L L D A N M D L S V Q V

90 310 330
catcctgatgatgattatgcaaaaactgcacgaaaatggcgaccttgggt
H P D D D Y A K L H E N G D L G

350 370
aaaacggagtgctgggtatatcattgattgcaaagatgacgccgaacta
K T E C W Y I I D C K D D A E L

390 410 430
attttgggacatcatgcaagcacaaaggaagagttcaaacaacgaata
I L G H H A S T K E E F K Q R I

450 470
gaaagcgggtgattggaacgggctgctgaggcgaatcaaaatcaagcca
E S G D W N G L L R R I K I K P

490 510 5
ggagatttcttttatgtgccaagcgggtacactccatgcttttatgtaag
G D F F Y V P S G T L H A L C K

30 550 570
ggaacccttgctccttgaaatccagcaaaaactctgatacaacatatcgc
G T L V L E I Q Q N S D T T Y R

FIG._5A

SUBSTITUTE SHEET (RULE 26)

9/11

590 610
gtatacgattatgaccgctgtaatgaccagggccaaaaagaactctt
V Y D Y D R C N D Q G Q K R T L

630 650 670
catatagaaaaagccatggaagtcataacgataccgcatatcgataaa
H I E K A M E V I T I P H I D K

690 710
gtgcatacacccggaagtaaaagaagttggtaacgctgagatcattgtt
V H T P E V K E V G N A E I I V

730 750 7
tatgtgcaatcagattatttctcagtgtacaaatggaagattagcggc
Y V Q S D Y F S V Y K W K I S G

70 790 810
cgagctgcttttcccttcatatcaaacctatttgcctggggagtggtctg
R A A F P S Y Q T Y L L G S V L

830 850
agcggatcaggacgaatcataaataatgggtattcagtatgaatgcaat
S G S G R I I N N G I Q Y E C N

870 890 910
gcaggctcacactttattctgcctgcgcattttggagaatttacaata
A G S H F I L P A H F G E F T I

930
gaaggaacatgtgaattcatgatatctcctcct
E G T C E F M I S H P

FIG._5B

10 / 11

10 30
atgacgcaatcacccgatttttctaacgcctgtgttttaagaaaaaatc
M T Q S P I F L T P V F K E K I

50 70 90
tggggcggaaccgcttttacgagatagatttggatacagtattccttca
W G G T A L R D R F G Y S I P S

110 130
gaatcaacgggggaatgctggggccatttccgctcatccaaaaggaccg
E S T G E C W A I S A H P K G P

150 170 190
agcactgttgcaaattggcccggtataaaggaaagacattgatcgagctt
S T V A N G P Y K G K T L I E L

210 230
tggggaagagcacccgtgaagtattcggcgccgtagagggggatcggttt
W E E H R E V F G G V E G D R F

250 270 2
ccgcttctgacaaaagctgctggatgtgaaggaagatacgtcaattaaa
P L L T K L L D V K E D T S I K

90 310 330
gttcaccctgatgattactatgccggagaaaacgaagaggggagaactc
V H P D D Y Y A G E N E E G E L

350 370
ggcaagacggaatgctggtacattatcgactgtaaggaaaacgcagaa
G K T E C W Y I I D C K E N A E

390 410 430
atcattttacgggcatacggcccgtcaaaaaaccgaacttgtcacaatg
I I Y G H T A R S K T E L V T M

450 470
atcaacagcgggtgactgggaggggcctgctgccaagaatcaaaaattaaa
I N S G D W E G L L R R I K I K

490 510 5
ccgggtgattttctattatgtgccgagcggaacgctgcacgcatttgtgc
P G D F Y Y V P S G T L H A L C

30 550 570
aagggggcccttgtttttagagactcagcaaaattcagatgccacatac
K G A L V L E T Q Q N S D A T Y

FIG._6A

SUBSTITUTE SHEET (RULE 26)

11 / 11

590 610
cggggtgtacgattatgaccgtcttgatagcaacggaagtccgagagag
R V Y D Y D R L D S N G S P R E

630 650 670
cttcatttttgccaaagcgggtcaatgccgccacgggttccccatgtggac
L H F A K A V N A A T V P H V D

690 710
gggtatatagatgaatcgacagaatcaagaaaaggaataaccattaaa
G Y I D E S T E S R K G I T I K

730 750 7
acatttgtccaagggggaatatatttttcgggtttataaatgggacatcaat
T F V Q G E Y F S V Y K W D I N

70 790 810
ggcgaagctgaaatggctcaggatgaatcctttctgatttgcagcgtg
G E A E M A Q D E S F L I C S V

830 850
atagaaggaagcgggtttgctcaagtatgaggacaaaacatgtccgctc
I E G S G L L K Y E D K T C P L

870 890 910
aaaaaagggtgatcactttattttgccggctcaaatagcccgattttacg
K K G D H F I L P A Q M P D F T

930
ataaaaaggaacttgtacccttatcgtgtctcatatt
I K G T C T L I V S H I

FIG._6B